

## Chamber Furnace 1500 deg.c. Operating Manual



- Maximum working temperature 1500deg.c.
  - Suitable for quality control laboratory.
  - Ignition tests.
  - Coal sampling
  - Organic and inorganic fusion.
  - Chemical analysis.
  - Soil & Agrets Cement testing.
  - Glass blowing lab.
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- Research facilities in chemical lab
  - Ash fusion in different industrial laboratory.



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!!! Warning: Thanks for Purchasing “PIECO” Product, please carefully read manual before using, “PIECO” has no responsibility for any damage caused by misuse.

Note: The specifications, data, drawing in this manual may very since “PIECO” keeps upgrading the MACHINES/OVENS/ FURNACES; if any confusion, please visit our web [www.instrumentsprocess.net](http://www.instrumentsprocess.net) for latest information.

### **Product Description:**

PIECO-MF-1500 is compact Chamber furnace with hot zone 12"Dpth x 8"W x 8"H high alumina chamber with resistance maximum 1600deg.c., one gas out let pipe & hole provide with back site of furnace for gas out let.

This furnace suitable for all kinds of Ash fusion, Laboratory research, heat treatment of small size sample within maximum heating range 1500deg.c. for a limited period only.

### **Technical Specification:**

Item	Parameter
Power	9 K.W
Voltage	AC 220V Single Phase, 50/60 Hz
Maximum Working Temperature	1500deg.c.
Continuous Working Temperature	1400deg.c.
Heating Elements	Silicon Carbide Elements
Thermocouple	Pt/pt-rh13%
Temperature Accuracy	Better Than +/- 1%
Hot Zone (D X W x W)	12" x 8" x 8"
Temperature Controller	Microprocessor Digital

## **Spares Details**

### **Temperature Controller:**



Digital Dual Display Microprocessor based type, upper one display read as process value (PV) and lower one as set value (SV) for furnace temperature controlling system.

PID Controller with time proportion (Optional On Request) operating, parameter setting as per manufacturer parameter setting guideline & will be provide along with furnace.

### **Amp. Meter:**

Show running Amp of furnace.

### **Volt Meter:**

Show running volt of furnace. Voltage regulating is an important factor for silicon carbide operated furnace.

### **Pot Setting:**

To regulate manual voltage setting one pot is provide on front panel. Suitable pot is 10 "Or" 5 K $\Omega$  for your furnace. Rotted knob of furnace clock wise for increase voltage and anti clock wise for decreasing voltage of furnace.

**Switches:**

One toggle switch for main ON, another for running of furnace, third one for panel cooling fan/blower ON. Toggle switches as 15 amp , DPDT type.

**LED Indicator:**

For main ON, another for running fan/ blower, third one for running of furnace.

**Phase Control Thyristor:**

Both be set as manual and pid mood (If PID Controller) parameter through Pid temperature controller. Manual mood drive through pot seting on front panel of furnace.

**Thyristor Feature:**

- Soft-start, soft-stop
- Small compact size
- Led monitoring (depend on model of furnace)
- Over current trip
- o/p voltage setting
- Single Phase 220v A/c.
- Two Phase Three wire 440V A/c.
- Three Phase 440v A/c.

**Contactor/SSR:**

For ON & OFF temperature process one contactor or ssr relay will be provide in panel of furnace to control smooth drive of temperature controller( only for manual thyristor derive). Value of contactor or ssr will be depend upon size of hot chamber and heating elements.

**Thermostatic control:**

This is not a compulsory parts of furnace but for smooth drive of furnace we provide this one with our furnace below operating temperature 1200deg.c.

**Heating Elements:**

Heating elements recommended for our furnaces as-

<b><u>Heating Elements</u></b>	<b><u>Recomded Temp. for Furnace</u></b>
Kanthal - D	950 deg.c.
Kanthal A 1	1050 deg.c
Silicon Carbide (Sic)	1200deg.c. 1400deg.c. 1500deg.c.for a limited hours only.

**\*\* For advice: Working temperature continuously for temperature 1500deg.c. to 1800 deg.c. recommended heating elements “MoSi2 Heating Elements”.**

**Fuse:**

One cartridge fuse in the panel for maximum safety for Instrument.

**Insulation:**

Ceramic fiber based boards with a variety of high-temperature applications. Their use should be considered whenever there is a need for a thin, durable board with excellent insulating characteristics such as Furnace hot face linings. Ceramic Blanket also use whenever require.

**Furnace Hot Zone Size:**

Few models with our standard continuous working temperature range.

<b><u>Model</u></b>	<b><u>Hot Zone</u></b>	<b><u>Temperature</u></b>
<b>PIECO-MF-950</b>	<b>9" x 4" x 4"</b>	<b>950 deg.c.</b>
<b>PIECO-MF-1000</b>	<b>12" x 6" x 6"</b>	<b>1000 deg.c.</b>
<b>PIECO-MF-1200</b>	<b>12" x 6" x 6"</b>	<b>1050 deg.c.</b>
<b>PIECO-MF-si1200</b>	<b>12" x 6" x 6"</b>	<b>1200 deg.c.</b>
<b>PIECO-MF-si1400</b>	<b>12" x 6" x 6"</b>	<b>1400 deg.c.</b>
<b>PIECO-MF-si1500</b>	<b>12" x 6" x 6"</b>	<b>1500 deg.c.</b>
<b>PIECO-MF-si1500/Dx</b>	<b>12" x 8" x 8"</b>	<b>1500deg.c.</b>

**!! Warning!!**

!! Make sure that the voltage rating printed on the AC adapter is identical to your local line voltage.

If any fault the only way to turn power off completely is by disconnecting the AC adapter for the Furnace / Oven.

Protect the AC adapter from contact with liquids.

**!!Caution!!**

The operator shall be responsible for any modification to “PIECO” Oven / Furnace / Instrument / Equipment and any connection of cable or spares not supplied by the manufacturer or Distributer of “PIECO”. If any Modification rectification required should be inform to Manufacturer, Distributer or Dealers by written only.

**Note**


## Further if any immediate assistance contact with Email: [pieco40@yahoo.com](mailto:pieco40@yahoo.com),  
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